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# BIBLIOGRAPHY OF VACUUM ULTRAVIOLET SPECTROSCOPY

TECHNICAL DOCUMENTARY REPORT NO. ASD-TDR-62-915

February 1963

Directorate of Materials and Processes  
Aeronautical Systems Division  
Air Force Systems Command  
Wright-Patterson Air Force Base, Ohio

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Project No. 7340, Task No. 734007

(Prepared under Contract No. AF 33(616)-7958 by  
the American Cyanamid Company, Stamford, Connecticut;  
Robert C. Hirt and Richard G. Schmitt, authors).

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Aeronautical Systems Division, Dir/Materials  
And Processes, Nonmetallic Materials Lab,  
Wright-Patterson AFB, Ohio.  
Rpt Nr ASD-TDR-62-915. BIBLIOGRAPHY OF  
VACUUM ULTRAVIOLET SPECTROSCOPY. Final re-  
port, Feb 63, 44p. incl. 1300 refs.

Unclassified Report

Publications in the field of vacuum ultra-  
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1. Bibliography
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## FOREWORD

The report was prepared by the Central Research Division of the American Cyanamid Company under USAF Contract No. AF 33(616)-7958. This contract was initiated under Project No. 7340, "Non-Metallic and Composite Materials", Task No. 734007, "Coatings for Energy Utilization, Control and Protective Functions". The work was administered under the direction of the Directorate of Materials and Processes, Deputy for Technology, Aeronautical Systems Division, with Mr. Harold Hormann as project engineer.

This report covers work conducted from July 1960 to October 1962.

## ABSTRACT

Publications in the field of vacuum ultraviolet spectroscopy have greatly increased in number during recent years, stimulated by the interest in space exploration and aided by the advent of commercial instrumentation. It appeared desirable to compile an extensive bibliography at this time. The bibliography is arranged alphabetically by senior author, with a four-letter code (called CODEN) for the journal reference. The format and presentation are suited for easy punching onto IBM punched cards for machine sorting. A subject index is provided to the more than 1300 references.

This technical documentary report has been reviewed and is approved.



J. M. KELBLE, Chief  
Elastomers and Coatings Branch  
Nonmetallic Materials Laboratory  
Directorate of Materials & Processes

## I. INTRODUCTION AND DESCRIPTION

This bibliography of papers concerned with the vacuum ultraviolet region of electromagnetic radiation has been compiled as an aid in locating information in the published literature. Wherever possible, the original article was consulted, both for content and for other references. Considerable latitude of judgment was exercised by the authors in decisions of inclusion or exclusion, and in indexing. Preference has frankly been given to articles in readily available journals and in the English language. Although this bibliography is more extensive than others recently compiled, it does not attempt to be exhaustively "complete".

Some use of International Business Machines (IBM) punched cards was made in compiling the various references. A simplified title or subject was given each article, short enough to be included with authors and reference on a standard IBM card. Therefore the reference list is composed of 80 or less letters and digits which may be punched directly into an IBM card, for further arrangements of references (by year, journal, or junior authors, for example). The index section was prepared from the simplified title or subject. Commonly occurring words have been omitted, such as "vacuum", "ultraviolet", "emission", "absorption", "intensities", and "spectrograph".

Pertinent books and sections of books have been included after the bibliographical listing by senior author, but are not numbered or indexed. A short supplemental bibliographical list has been included to cover certain references not available or checked at the time of the final numbering of the main list.

A recent report by Kelly (542) covers all the published atomic emission lines up to January 1959. L. Kasha and M. Kasha published "Molecular Electronic Bibliography" (see Book Section) covering publications of early workers in molecular quantum mechanics and molecular electronic spectroscopy. Most, but not all, of the references from these two works are included in this bibliography.

This bibliography was originally published with 548 references in July 1960, as Wright Air Development Division Technical Report 60-704.

## II. LIST OF CODEN FOR JOURNALS

CODEN is a system of designating journals by a combination of four letters. It was developed by Dr. Charles Bishop of the Chronic Disease Research Institute, Buffalo, New York, and described in an article in "American Documentation", Vol. 4, 54 (1953). In 1957, CODEN was adopted by the Standard Data Subcommittee of Committee E-13 (Absorption Spectroscopy) of the American Society for Testing Materials, for use in its activities in searching the literature for infrared and ultraviolet spectra.

Manuscript released by the authors October 1962 for publication as an ASD Technical Documentary Report.

The CODEN used in this bibliography on vacuum ultraviolet spectroscopy are as follows:

<u>CODEN</u>	<u>Journal</u>
ADCP	Advances in Chemical Physics
ADPH	Advances in Physics
AFYS	Arkiv. Fysik.
AGEP	Ann. Geophys.
AJCH	Australian Journal of Chemistry
ANAL	Analyst
ANAP	Ann. Astrophys.
ANCE	Angewandte Chemie
ANCH	Analytical Chemistry
ANJO	Astronomical Journal
ANPH	Annales de Physique
ANPY	Annalen der Physik
APOP	Applied Optics
APSP	Applied Spectroscopy
ARPC	Annual Reports on the Progress of Chemistry
ARPL	Annual Review of Physical Chemistry
ARSF	Anales de la Real Sociedad Espanola de Fisica, Series A
ASJO	Astrophysical Journal
ASTM	American Society for Testing Materials, Technical Papers
ASTO	Astronautics
ASTS	ASTM Standards
BCSA	Bulletin de la Classe des Sciences (Belgium)
BCSJ	Bulletin Chemical Society of Japan
EDCG	Berichte der deutschen chemischen Gesellschaft
BJAP	British Journal of Applied Physics
BSCF	Bulletin de la Societe Chimique de France
BSRS	Bulletin de la Societe Royale des Sciences de Liege
CAPH	Cahiers de Physique
CHIM	Chimia (Switzerland)
CHIN	Chemistry and Industry
CHRE	Chemical Reviews
CINM	Chimica, e l'Industria (Milan)
CJCH	Canadian Journal of Chemistry
CJPH	Canadian Journal of Physics
CJRE	Canadian Journal of Research
CORE	Comptes rendus hebdomadaires de seances de l'academic des sciences
DFSO	Discussions of the Faraday Society
GCIT	Gazzetta Chimia Italiana
HCAC	Helvetica Chimica Acta
HLJO	Hilger Journal (London)
HPAC	Helvetica Physica Acta
IGYR	International Geophysical Year Reports
LJPY	Indian Journal of Physics

CODENJournal

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JACH Journal of Applied Chemistry (London)  
JACS Journal of the American Chemical Society  
JAIE Journal of the American Institute of Electrical Engineers  
JAPI Journal of Applied Physics  
JCNR Journal de Recherches Centre Natl. Recherche Sci. (Paris)  
JCPD Journal of the Physics and Chemistry of Solids  
JCPQ Journal de Chimie-Physique  
JCPS Journal of Chemical Physics  
JCSJ Journal of the Chemical Society of Japan  
JCSO Journal of the Chemical Society (London)  
JESO Journal of the Electrochemical Society  
JFIN Journal of the Franklin Institute  
JGRE Journal of Geophysical Research  
JIPE Journal of the Institute of Petroleum  
JMOB Journal of Molecular Biology  
JMOS Journal of Molecular Spectroscopy  
JOCE Journal of Organic Chemistry  
JOMY Journal of Meteorology  
JOSA Journal of the Optical Society of America  
JPCH Journal of Physical Chemistry  
JPRA Journal de Physique et le Radium  
JPSC Journal of Polymer Science  
JRNBS Journal of Research of the National Bureau of Standards  
JRBR Journal des Recherches du Centre National de la Recherche  
Scientifique, Laboratoires de Bellevue, Paris  
JSCI Journal of the Society of Chemical Industry (London)  
JSEE Journal of Solar Energy Sci. and Eng. (Ariz.)  
JSIN Journal of Scientific Instruments  
JSIR Journal of Scientific and Industrial Research (India)  
JUPS Journal of the Physical Society of Japan  
MEAS Metals and Alloys  
MIAC Mikrochimica Acta  
MOPH Molecular Physics  
MSRS Memoires de la Societe Royale des Sciences de Liege  
NATU Nature  
NATW Naturwissenschaften  
NRLR Naval Research Laboratory Reports  
ODFP Official Digest  
OJSC Ohio Journal of Science  
OPAC Optica Acta (Paris)  
QPSP Optics and Spectroscopy  
FAAA Proceedings of the American Academy of Arts and Sciences  
PCSO Proceedings of the Chemical Society  
PHMA Philosophical Magazine  
PHRV Physical Review  
PHYS Physica  
PRZT Physikalische Zeitschrift

CODENJournal

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PIAS	Proceedings of the Indian Academy of Sciences
PIIA	Proc. Natl. Institute Sci. India
PLSS	Planetary and Space Science
PNAS	Proceedings of the National Academy of Science
PFSO	Proceedings of the Physical Society (London)
PRSL	Proceedings of the Royal Society (London)
PSGB	Photoelectric Spectrometry Group Bulletin
QURE	Quarterly Reviews
RISS	Rendiconti Istituto di Sanita Publica (Rome)
RMPH	Reviews of Modern Physics
ROTI	Revue d'Optique, theroretique et instrumentale
RPCA	Reviews of Pure and Applied Chemistry
RFPH	Reports on Progress in Physics
RSIN	Review of Scientific Instruments
RICP	Recueil des Travaux Chimiques de Pays-Bas
RUNM	Revue Universelle des Mines
SCAM	Scientific American
SCIE	Science
SCLI	Science of Light (Tokyo)
SJRC	Scientific Journal of the (Royal) College of Science (Britain)
SPAC	Spectrochimica Acta
SPIP	Scientific Papers of the Institute of Physical and Chemical Research (Tokyo)
TAPS	Transactions of the American Philosophical Society (Philadelphia)
TBIC	Transactions of the Bose Research Institute, Calcutta
TFSO	Transactions of the Faraday Society
TRSC	Transactions of the Royal Society of Canada
TRSO	Transactions of the Royal Society (London)
UCRL	University of California Radiation Laboratory
ZAPH	Zeitschrift fur angewandte Physik
ZEAP	Zeitschrift fur Elektrochemie
ZEPY	Zeitschrift fur Physik
ZPCL	Zeitschrift fur physikalische Chemie
ZTFH	Zeitschrift fur technische Physik

### III. BIBLIOGRAPHY

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137	BOYCE, J.C.	Krypton	PHRV	47	718	35
138	BOYCE, J.C.	Argon I-V	PHRV	48	396	35
139	BOYCE, J.C.	Argon III	PHRV	49	351	36
140	BOYCE, J.C.	Xenon to 600 A	PHRV	49	730	36
141	BOYCE, J.C.	Review	RMPH	13	1	41
142	BOYCE, J.C., COMPTON, K.T.	Neon, argon	PNAS	15	656	29
143	BOYCE, J.C., MISCH, L.	Review of line spectra	PHRV	57	1073	40

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146	BRANDT, J.C.	Lyman alpha absorption	ASJO	134	394	61
147	BRAUDE, E.A.	General review	ARPC	42	105	45
148	BREHM, R.K., BENZIE, G.	Spectrograph, 6.8 meter	RSIN	28	552	57
149	BRINEN, J.S., HIRT, R., SCHMITT	Triazine, methyltriazines	SPAC	18	863	62
150	BRIX, P., HERZBERG, G.	Oxygen dissociation energy	CJPH	32	110	54
151	BRODERSEN, P.H., MAYO, S.	BrF bands	ZEPY	143	477	55
152	BUNCH, COOK, OGAWA, EHLER	Benzene, H, absorption	JCPS	28	740	58
153	BUTTENBENDER, G., HERZBERG, G.	Nitrogen predissociation	ANFY	21	577	34
154	BYRAM, CHUBB, KUPFERLIAN, KREPLIN	Lyman alpha intensity	ASJO	128	738	58
155	CADY, W.M.	Ca I isoelectronic series	PHRV	43	322	33
156	CADY, W.M.	Nitrogen III-V, Oxygen III, V	PHRV	44	821	33
157	CALVERT, J.G.	Photochemistry	OJSC	53	293	53
158	CAMAC, M.	Oxygen argon shock wave	JCPS	34	448	61
159	CAMAC, M., VAUGHAN, A.	Oxygen dissociation	JCPS	34	460	61
160	CAMERON, W.H.B.	Carbon monoxide	PHMA	1	405	26
161	CARIO, G., SCHMIDT-OTT, H.D.	Fluorite spectrograph	ZEPY	69	719	31
162	CARR, E.P.	Isomers of 2-pentene	JACS	51	3041	29
163	CARR, E.P.	Simple unsaturates	CHRE	41	293	47
164	CARR, PICKETT, L.W., STUCKLEN, H.	Dienes	RMPH	14	260	42
165	CARR, E.P., STUCKLEN, H.	Heptylene, pentylene	HPAC	6	261	33
166	CARR, E.P., STUCKLEN, H.	Hydrocarbons	ZFCL	B25	57	34
167	CARR, E.P., STUCKLEN, H.	Simple hydrocarbons	JCPS	4	760	36
168	CARR, E.P., STUCKLEN, H.	Butene-2, pentene-2	JACS	59	2138	37
169	CARR, E.P., STUCKLEN, H.	Unsaturated cyclics	JCPS	6	55	38
170	CARR, E.P., STUCKLEN, H.	Hydrocarbon Rydberg series	JCPS	7	631	39
171	CARR, E.P., WALKER, M.K.	Simple hydrocarbons	JCPS	4	751	36
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173	CARROLL, J.A.	Heavy metals, spark	TRSO	225	357	26
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182	CHARLES, HUNT, PISH, TIMMA	Polonium I	JOSA	45	869	55
183	CHILDS, C.B.	Gold cathode photomultipliers	JOSA	51	583	61
184	CHRETIEN, M.	Boron fluoride	HPAC	22	588	49
185	CHRETIEN, M.	Boron fluoride	HPAC	23	259	50
186	CHUBB, T.A.	Barium fluoride crystals	JOSA	46	362	50
187	CHUBB, T.A., FRIEDMAN, H.	Photon counters as detectors	RSIN	26	493	55
188	CLARK, K.C.	Ionospheric nitrogen, oxygen	PHRV	87	271	52
189	CLARKE, F.J.P., GARTON, W.R.S.	Grating spectrophotometer	JSIN	36	403	59
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196	COMPTON, K.T., BOYCE, J.G.	Nitrogen I	PHRV	33	145	29
197	COMPTON, K.T., BOYCE, J.G.	Spectrograph, 2 meter vac.	PHRV	40	1038	32
198	COMPTON, K.T., BOYCE, J.G.	Broad range spectrograph	RSIN	5	218	34
199	COMPTON, BOYCE, RUSSELL, H.N.	Argon II	PHRV	32	179	28
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202	CORDES, H., SPONER, H.	Chlorine, bromine, ICl, Ibr	ZEPY	63	334	30
203	CORDES, H., SPONER, H.	Mixed halogen molecules	ZEPY	79	170	32
204	COSTER, HOF, RATHENAU, SIMONS	Gold, silver absorption	PHYS	5	643	38
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208	CRAWFORD, McLAY, CROOKER, A.M.	Lead IV	PRSL A158		455	37
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213	CURTIS, C.W.	Manganese I	JOSA	42	300	52
214	CURTIS, J.P.	Nitrogen, air, abs. coeffs.	PHRV	94	908	54
215	CURTIS, J.P., RENSE, W.A.	Absorption coefficients	ANJO	58	213	53
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225	DEJARDIN, G.	Hydrogen continuum	ROTI	13	353	34
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228	DETWILER, C.R., PURCELL, TOUSEY	Solar Lyman alpha line	NRLR PB16		1278	60
229	DETWILER, C.R., PURCELL, TOUSEY	Solar continuum to 1000 A	ANJO	66	281	61
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260	DRESSLER, K., SCHNEPP, K.	Solid ammonia, water	JCPS	33	270	60
261	DUNCAN, A.B.F.	Acetone vapor	JCPS	3	131	35
262	DUNCAN, A.B.F.	Ammonia	PHRV	47	822	35
263	DUNCAN, A.B.F.	Deuterated ammonia	PHRV	47	886	35
264	DUNCAN, A.B.F.	Nitrous oxide	JCPS	4	638	36
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267	DUNCAN, A.B.F.	Review	ARPL	5	185	54
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274	DWYER, R.J., LEIGHTON, H.W.	Quartz window discoloration	RSIN	12	156	41
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278	EDLEN, B.	Beryllium, carbon	NATU	127	405	31
279	EDLEN, B.	Oxygen lines	ZEPY	85	85	33
280	EDLEN, B.	Fluorine VI-VII	ZEPY	89	179	34
281	EDLEN, B.	Fluorine V	ZEPY	89	597	34
282	EDLEN, B.	Fluorine IV	ZEPY	92	19	34
283	EDLEN, B.	Fluorine III	ZEPY	93	433	35
284	EDLEN, B.	Oxygen II-IV	ZEPY	93	726	35
285	EDLEN, B.	Fluorine V	ZEPY	94	47	35
286	EDLEN, B.	Nitrogen II-III	ZEPY	98	561	36
287	EDLEN, B.	Potassium IX series	ZEPY	100	621	36
288	EDLEN, B.	Chlorine VIII-XI	ZEPY	100	726	36

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292	EDLEN, B., ERICSON, A.	Condensed spark spectra	CORE	190	116	30
293	EDLEN, B., RISBERG, A.	Calcium II	AFYS	10	533	56
294	EDLEN, B., SODERQVIST, J.	Silicon IV	ZEPY	87	217	33
295	EDLEN, B., SWINGS, P.	Iron III	ASJO	95	532	42
296	EDLEN, B., TYRON, F.	Potassium X series	ZEPY	101	206	36
297	EDLEN, B., ERICSON, A.	Aluminum, F, Ne, Na, Mg	CORE	190	173	30
298	EHLER, A.W., WEISSLER, G.L.	Atomic nitrogen, ionization	JOSA	45	1035	55
299	EKEFORS, E.	Nitrogen	ZEPY	63	437	30
300	EKEFORS, E.	Potassium, calcium, spark	ZEPY	71	53	31
301	EKEFORS, E.	Aluminum	ZEPY	51	471	38
302	ELDER, GIESE, STEINER, INGRAM	Alkyl free radicals	JCPS	36	3291	62
303	EL-KHALAFAWI, JOHANNIN-GILLES	Schuler emission lamp	JFRA	17	372	56
304	ELLIS, C.B., SAWYER, R.A.	Thallium II	PHRV	49	145	36
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308	ERICSON, A., EDLEN, B.	Light element spectra	ZEPY	59	656	30
309	ETZEL, H.W., PATTERSON, D.A.	Alkali halides, hydroxyl ions	PHRV	112	1112	58
310	EVANS, D.F.	Perfluoroheptane as solvent	JCPS	23	1429	55
311	FARRE, D., ROMAND, J.	Magnesium fluoride films	CORE	250	1226	60
312	FASTIE, CROSSWHITE, GLOERSEN	Ebert grating spectrometer	JOSA	48	106	58
313	FEATES, F.S., KNIGHT, RICHARDS	High intensity source	SPAC	18	485	62
314	FINDLAY, J.H.	Cobalt II	PHRV	3	5	30
315	FINKELSTEIN, N.A.	Hydrogen continuum source	RSIN	21	509	50
316	FITZGERALD, M.A., SAWYER, R.A.	Cesium III, barium IV	PHRV	476	576	34
317	FLEMBERG, H.	Bent crystal diff. grat.	ZEPY	111	747	39
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324	FOWLER, A.	Oxygen III	PRSL A117	317	28	
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326	FOWLER, A., FREEMAN, L.J.	Nitrogen II	PRSL A114	662	27	
327	FOWLER, A., SELWYN, E.W.H.	Carbon I	PRSL A118	34	28	
328	FOWLER, A., SELWYN, E.W.H.	Carbon II	PRSL A120	312	28	
329	FRANCE, R.W.	Lithium vapor absorption	PRSL A129	354	30	
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331	FRANKLIN, S.G.	Compact design spectrometer	JOSA	44	348	54
332	FREED, S., McMURRAY, ROSENBAUM	White sapphire	JCPS	7	853	39
333	FREEMAN, L.J.	Nitrogen III	PRSL A121	318	28	
334	FREEMAN, L.J.	Nitrogen II	PRSL A124	654	29	
335	FREEMAN, L.J.	Nitrogen IV	PRSL A127	330	30	
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341	FRISH, S.	Neon	ZEPY	64	499	30
342	FRITZ, S.	Solar radiation, lower atmos.	PNAS	43	95	57
343	FUJIOKA, Y., ITO, M.	Recording spectrometer	SCLI	1	1	51
344	FUJIOKA, J., WADA, T.	Heavy hydrogen, DH	SPIP	27	210	35
345	GARINO-CANINA, V.	Quartz, vitreous silica	ROTL	34	365	55
346	GARTLEIN, C.W.	Germanium from 1870 A	PHRV	31	782	28
347	GARTON, W.R.S.	Indium vapor	NATU	166	150	50
348	GARTON, W.R.S.	Gallium arc	NATU	166	317	50
349	GARTON, W.R.S.	Tin vapor	NATU	166	690	50
350	GARTON, W.R.S.	Tin vapor, helium, hydrogen	PPSO	A64	591	51
351	GARTON, W.R.S.	Copper vapor	PPSO	A65	461	52
352	GARTON, W.R.S.	Lyman flash discharge tube	JSIN	30	119	53
353	GARTON, W.R.S.	Indium vapor	PPSO	A67	864	54
354	GARTON, W.R.S.	Lyman discharge tube	JSIN	36	11	59
355	GARTON, W.R.S., FEAST, M.W.	Heated oxygen, Schumann bands	NATU	165	281	50
356	GARTON, RAJARATNAM, A.	Mercury I	PPSO	A67	1107	55
357	GARTON, W.R.S., WEBB, WILDY	Photomultiplier, Lyman alpha	JSIN	34	496	57
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362	GIBBS, R.C., VIEWEG, GARTLEIN	Tin, antimony, spark	PHRV	34	406	29
363	GIBBS, R.C., WHITE, H.E.	Sc III, Ti IV, Vanadium V	PNAS	12	598	26
364	GIBBS, R.C., WHITE, H.E.	Tin V	PNAS	14	345	28
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366	GILBERT, W.P.	Silver III	PHRV	48	338	35
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370	GILLES, A., VODAR, B.	Fery prism spectrograph	JPRA	11	513	50
371	GILROY, H.T.	Mn III, Fe IV, CO V, Ni VI	PHRV	38	2217	31
372	GLAD, S.	Carbon II	AFYS	7	2-7	53
373	GLAD, S.	Iron III	AFYS	10	291	56
374	GLEASON, P.R.	Reflectance of Pt films	PAAA	64	92	30
375	GOLDEN, J.A., MYERSON, A.L.	Recombination, atomic oxygen	JCPS	28	978	58
376	GOLDEN, J.A., MYERSON, A.L.	Flash continuum source	JOSA	48	548	58
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379	GRANIER, J., ASTOIN, N.	Nitric oxide	CORE	242	1431	56
380	GRANIER-MAYENCE, J., ROMAND, J.	Solid nitrogen suboxide	CORE	235	1023	52
381	GRANIER-MAYENCE, J., ROMAND, J.	Solid nitrous oxide	JPRA	14	428	53
382	GRANIER-MAYENCE, J., ROMAND, J.	Solid nitric oxide	CORE	236	1148	53
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384	GREEN, J.B., LANG, R. J.	Indium III, antimony IV	PNAS	14	706	28
385	GREEN, J.B., LORING, R.A.	Tin I-III	PHRV	30	574	27
386	GREEN, L.C.	Iron wavelength standards	PHRV	55	1209	39

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390	HAM, J.S., PLATT, J.R.	Peptides	JCPS	20	335	52
391	HAM, PLATT, McCONNELL, H.	Benzene-halogen complexes	JCPS	19	1301	51
392	HAMMOND, V.J., PRICE, W.C.	Photoelectric spectrometer	JSIN	31	104	54
393	HAMMOND, V.J., PRICE, W.C.	Benzene, ethylene intensities	TFSO	51	605	55
394	HAMMOND, TEEGAN, WALSH	Benzenes, naphthalenes	DFSO	9	53	50
395	HANSEN, R.E., BUELL, M.V.	Solar blind phototubes	ANCH	31	878	59
396	HARANATH, P.B.V., RAO, P.T.	Iodine	MOSP	2	428	58
397	HARRISON, CEDERHOLM, TERWILLIGER	Acyclic oxygen cpds.	JCPS	30	355	59
398	HARRISON, A.J., GADDIS, COFFIN	Divinyl ethers, intensities	JCPS	18	221	50
399	HARRISON, A.J., LAKE, J.S.	Photolysis, oxygen compounds	JPCH	63	1489	59
400	HARRISON, A.J., PRICE, D.R.W.	Ethers	JCPS	30	357	59
401	HARRISON, G.R.	Spectrograph, 21 foot	RSIN	2	600	31
402	HARRISON, G.R.	Spectrograph improvements	RSIN	4	651	33
403	HARRISON, G.R.	Review, analytical	MEAS	7	290	36
404	HARRISON, G.R., LEIGHTON, P.	Homochromatic spectrometry	JOSA	20	313	30
405	HARRISON, G.R., LEIGHTON, P.	Fluorescence, photography	PHRV	38	899	31
406	HARRISON, G.R., LEIGHTON, P.	Normal incidence spectrogr.	RSIN	4	651	33
407	HARTEK, P., OPPENHEIMER, F.	Xe-Ne resonance lamp	ZPCH	B16	77	32
408	HARTMAN, P.L., NELSON, J.R.	Hydrogen source	JOSA	47	646	57
409	HARTMAN, P.L., SIEGFRIED, J.G.	Reflection of NaCl, KCl	PHRV	105	123	57
410	HARTMAN, P.L., TAMBOULIAN, D.H.	Radiation from synchrotron	PHRV	91	1577	53
411	HARTZLER, H.H.	Thin metallic films to 1300A	JOSA	24	339	34
412	HASS, G., HUNTER, TOUSEY	Evaporated Al reflectance	JOSA	46	1009	56
413	HASS, G., HUNTER, TOUSEY	Evaporated Al reflectance	JOSA	47	1070	57
414	HASS, G., TOUSEY, R.	Reflective coatings	JOSA	49	593	59
415	HAUTOT, A., SAUVENIER, H.	Photographic technique	BSRS	9	33	40
416	HEADRICK, L.B., FOX, G.W.	Carbon monoxide to 1280 A	PHRV	35	1033	30
417	HEDDLE, D.W.O.	Oxygen, photodissociation	JCPS	32	1889	60
418	HEIDT, L.J., EKSTROM, L.	Dissolved air in water	JACS	79	1260	57
419	HELLERMANN, M.	High frequency excitation	ZEPY	104	417	37
420	HENNING, H.J.	Carbon monoxide, dioxide	ANFY	13	599	32
421	HENRI, V., LASAROFF, W.	Methylamine	CORE	200	829	35
422	HENRICI, A.	Halogenated methanes	ZEPY	77	35	32
423	HERBERT, W.S., HERZBERG, MILLS	Active nitrogen	CJRE	A15	35	37
424	HERNANDEZ, G.J., DUNCAN, A.B.F.	1,4-dioxane, 1,3-dioxane	JCPS	36	1504	62
425	HERZBERG, G.	Predissociation phosphorus	NATU	126	239	30
426	HERZBERG, G.	Diffuse spectra, predissoc.	ZEPY	61	604	30
427	HERZBERG, G.	Dissociation, oxygen	ZPCL	B10	189	30
428	HERZBERG, G.	Acetylene, formaldehyde	TFSO	27	378	31
429	HERZBERG, G.	Predissociation, phosphorus	ANFY	15	677	32
430	HERZBERG, G.	Phosphorus	PHRV	40	313	32
431	HERZBERG, G.	Dissociation energy, CO, CN	NATU	137	620	36
432	HERZBERG, G.	Nitrogen, Lyman-Birge bands	PHRV	69	362	46
433	HERZBERG, G.	Deuterium, Lamb shift	PRSL	234	516	56
434	HERZBERG, G.	Review	ARPL	9	315	58
435	HERZBERG, G.	Ionization potential of CH <sub>2</sub>	CJPH	39	1511	61

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437	HERZBERG, G., HOWE, L.L.	Hydrogen Lyman Bands	CJPH	37	636	59
438	HERZBERG, G., HUGO, T.J.	Carbon monoxide to 1230 A	CJPH	33	757	55
439	HERZBERG, G., INNES, K.K.	Hydrogen cyanide and DCN	CJPH	35	842	57
440	HERZBERG, LAGERQUIST, MIESCHER	Alpha and beta bands of NO	CJPH	34	622	56
441	HERZBERG, G., MUNDIE, L.G.	Diatomic molecules, prediss.	JCPS	8	263	40
442	HERZBERG, G., SCHEIBE, G.	Methyl halides	TFSO	25	716	29
443	HERZBERG, G., SCHEIBE, G.	Methyl halides	ZPCH	A7	390	30
444	HERZBERG, G., SHOOSMITH, J.	Methyl radicals	CJPH	34	523	56
445	HERZBERG, G., SHOOSMITH, J.	Methylene radical	NATU	183	1801	59
446	HERZBERG, G., SPONER, H.	Dissociation, nitrogen	ZPCL	B26	1	34
447	HETZLER, C.W., BOREMAN, BURNS	Zinc arc in vacuum	PHRV	48	656	35
448	HEYLEN, A.E.D.	Electric strength of gases	JCPS	29	813	58
449	HILGENDORF, H.J.	Ammonia, HCN, hydrazine	ZEPY	95	781	35
450	HILSCH, R., POHL, R.W.	Alkali halides	ZEPY	59	812	30
451	HINTEREGGER, H.E.	Differential phototubes	JOSA	43	328	53
452	HINTEREGGER, H.E.	Solar radiation distr.	JGRE	66	2367	61
453	HINTEREGGER, H.E., WATANABE	Windowless photocells	JOSA	43	604	53
454	HIRT, R.C.	Analytical review	ANCH	28	579	56
455	HIRT, R.C.	Analytical review	ANCH	30	589	58
456	HIRT, R.C.	Analytical review	ANCH	32	225R	60
457	HIRT, R.C.	Analytical review	ANCH	34	276R	62
458	HOAG, J.B.	Wavelength for C, O, N	ASJO	66	225	27
459	HOLDSWORTH, R.S., DUNCAN, A.B.F.	Aliphatic ketones	CHRE	41	311	47
460	HOPFIELD, J.J.	Hydrogen, nitrogen, oxygen	PHRV	20	573	22
461	HOPFIELD, J.J.	Air 1100-1218	PHRV	20	587	22
462	HOPFIELD, J.J.	Carbon monoxide, absorption	PHRV	29	350	27
463	HOPFIELD, J.J.	Nitrogen 1650-1742 A	PHRV	31	1131	28
464	HOPFIELD, J.J.	Helium I	ASJO	72	133	30
465	HOPFIELD, J.J.	Continuous spectra to 500A	PHRV	36	704	30
466	HOPFIELD, J.J.	Hydrogen	NATU	125	927	30
467	HOPFIELD, J.J.	Oxygen, 1302 triplet	PHRV	37	100	31
468	HOPFIELD, J.J.	Water	PHRV	53	931	38
469	HOPFIELD, J.J.	Water, to 900 A	PHRV	77	500	50
470	HOPFIELD, J.J., CLEARMAN, H.E.	Solar spectra from rockets	PHRV	73	877	48
471	HOPFIELD, J.J., LEIFSON, S.W.	Hydrogen wavelength stds.	ASJO	58	59	23
472	HORI, T.	Hydrogen	ZEPY	44	838	27
473	HUFFMAN, HUNT, TANAKA, NOVACK	New helium continuum	JOSA	51	693	61
474	HURZELER, INGRAM, MORRISON	Photoionization, mass spect.	JCPS	27	313	57
475	HURZELER, INGRAM, MORRISON	Photoionization, mass spect.	JCPS	28	76	58
476	HUSH, N.S.	Unsaturates, ionization pot.	JCPS	27	612	57
477	HUTCHINSON, R.O.	Al, Zn, C, arc and spark	ASJO	58	280	23
478	HYMAN, H.H.	Hydrogen, resonance system	PHRV	36	187	30
479	HYMAN, H.H., JEPPESEN, C.R.	Hydrogen	NATU	125	462	30
480	ICZKOWSKI, R.P., MARGRAVE, J.L.	Fluorine Rydberg series	JCPS	30	403	59
481	IGLESIAS, L.	Niobium II	ARSF	50	135	54
482	IGLESIAS, L.	Niobium III	JOSA	45	856	55
483	IGLESIAS, L.	Manganese	ARSF	53	249	57
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487	INGRAM, S.B.	Sulfur II	PHRV	32	172	28
488	INGRAM, S.B.	Sulfur III	PHRV	33	907	29
489	INN, E.C.Y.	Photoionization	PHRV	91	1194	53
490	INN, E.C.Y.	Review	SPAC	7	65	55
491	INN, E.C.Y., TANAKA, J.	Ozone	JOSA	43	870	53
492	INN, WATANABE, ZELIKOFF	Carbon dioxide intensities	JCPS	21	1648	53
493	INNES, K.K.	Acetylene	JCPS	22	863	54
494	IONESCO, A.	Acetylene	CORE	200	817	35
495	ITO, M., HUANG, P.C., KOSOWER	Iodo- and bromomethanes	TFSO	57	162	61
496	JACOBS, L.E., PLATT, J.R.	Isoprene, piperlyenes	JCPS	16	1137	48
497	JACOBS, PLATT, SCHAEFFER	Borazole	JCPS	16	116	48
498	JAMES, J.F.	Double beam method	JSIN	36	188	59
499	JANIN, J.	Rubidium, spark	CORE	195	1010	32
500	JASTROW, R.	Extraterrestrial sources	JGRE	64	1647	59
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502	JEPPESEN, C.R.	Heavy hydrogen and DH	PHRV	45	480	34
503	JEPPESEN, C.R.	Deuterium emission	PHRV	49	797	36
504	JEPPESEN, C.R.	Hydrogen emission	PHRV	54	68	38
505	JOHANNIN-GILLES, A.	Water vapor	CORE	236	676	53
506	JOHANNIN-GILLES, A.	Water, temperature effect	CORE	236	1345	53
507	JOHANNIN-GILLES, A.	X-ray irradiation of LiF	JPRA	15	192	54
508	JOHANNIN-GILLES, A.	Water, heavy water vapors	JCNR	31	205	55
509	JOHANNIN-GILLES, A.	Heavy water vapor	CORE	240	1523	55
510	JOHANNIN-GILLES, ASTOIN, VODAR	Water, heavy water vapor	CAPI	71	49	56
511	JOHANNIN-GILLES, A., VODAR, B.	Water vapor	JPRA	15	223	54
512	JOHNS, J.W.C., BARROW, R.F.	HF and DF	NATU	179	374	57
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514	JOHNS, M.W.	Mercury III	CJRE	A15	193	37
515	JOHNSON, B.K.	Microscope, data to 1863 A	JSIN	11	384	34
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519	JOHNSON, F.S.	Emission of carbon arc	JOSA	46	101	56
520	JOHNSON, MALITSON, PURCELL, TOUSEY	Solar Lyman alpha	ASJO	127	1	58
521	JOHNSON, PURCELL, TOUSEY	Extreme solar, extension	PHRV	95	621	54
522	JOHNSON, PURCELL, TOUSEY, WATANABE	Ozone, upper atmosphere	JGRE	57	157	52
523	JOHNSON, PURCELL, TOUSEY, WATANABE	Solar spectra from rockets	JOSA	44	827	54
524	JOHNSON, F.S., TOUSEY, R.	Fluorescence-sensitization	JOSA	40	264	50
525	JOHNSON, F.S., WATANABE, K.	Fluorescing resin	JOSA	41	292	51
526	JOHNSON, WATANABE, TOUSEY	Fluorescent detectors	JOSA	41	702	51
527	JOHNSON, P.D.	Monochromator, grating	JOSA	42	278	52
528	JOHNSON, P.D.	Magnesium oxide	PHRV	94	845	54
529	JOHNSON, R.C.	Carbon monoxide	NATU	117	376	26
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536	KASSEL, L.S., NOYES, W.A. Jr.	Photodecomposition, ammonia	JACS	49	2495	27
537	KATO, NAKASHIMA, NAKAMURA, UCHIDA	LiF optical properties	JUPS	15	2111	60
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539	KAYE, W.I.	Analytical review	APSP	15	89	61
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541	KELLOGG, W.W.	Solar Lyman alpha behavior	PLSS	1	71	59
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543	KELLY, R.L.	Grazing incidence grating	UCRL		5924T	60
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545	KENTY, C.	Ne, Ar, photoelec. effic.	PHRV	38	2079	31
546	KENTY, C.	Tungsten, magnesium	PHRV	43	776	33
547	KENTY, C.	Photoelectric yields	PHRV	44	891	33
548	KENTY, C.	Xenon	PHRV	93	651	54
549	KENTY, C.	Rare gas emission	JCPS	22	1466	54
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551	KEUSSLER, V.	Neon III	ZEPY	85	1	33
552	KIESS, C.C.	Silicon I	JRNB	21	185	38
553	KIESS, C.C.	Chromium II	JRNB	47	385	51
554	KIESS, C.C.	Chromium I	JRNB	51	247	53
555	KIESS, C.C.	Zirconium III-IV	JRNB	56	167	56
556	KIESS, C.C.	Molybdenum II	JRNB	60	375	58
557	KIESS, C.C., DeBRUIN, T.L.	Chlorine II	JRNB	23	443	39
558	KIESS, C.C., LANG, R.J.	Zirconium III-IV	JRNB	5	305	30
559	KIESS, C.C., KIESS, H.K.	Zirconium II	JRNB	5	1205	30
560	KIMURA, K., NAGAKURA, S.	Organic halides	SPAC	17	166	61
561	KISTIAKOWSKY, G.B.	Photochem., H and O, 1919 A	JACS	52	1868	30
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563	KLEVENS, H.B., PLATT, J.R.	Transmission limits	JACS	69	3055	47
564	KLEVENS, H.B., PLATT, J.R.	Liquid transmission limit	JCPS	16	1168	48
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570	KLINKENBERG, P.F.A., LANG, R.J.	Thorium IV	PHYS	15	774	49
571	KLINKENBERG, MEGGERS, VELASCO, CATALAN	Rhenium I	JRNB	59	319	57
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573	KNAUSS, H.P., BALLARD, S.S.	Oxygen rotational structure	PHRV	48	796	35
574	KNUDSON, A.R., KUPPERIAN, E.Jr.	Crystal calcium fluoride	JOSA	47	440	57
575	KOESTER, C.J., GIVENS, M.P.	AgCl and AgBr films	PHRV	106	241	57
576	KOFWIEN, H.	Helium	ZEPY	91	1	34
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578	KRISHNAMURTY, S.G.	Tellurium I	IJPY	10	365	36
579	KRISHNAMURTY, S.G.	Tellurium III	PRSL	A151	178	36
580	KRISHNAMURTY, S.G., RAO, K.R.	Selenium II	PRSL	A149	56	35
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582	KRUGER, P.G.	Large spectrograph	RSIN	4	128	33

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585	KRUGER, P.G., PATTIN, H.S.	Scandium VI series	PHRV	52	621	37
586	KRUGER, P.G., PHILLIPS, L.W.	K III, Ca IV, Sc V	PHRV	51	1087	37
587	KRUGER, P.G., PHILLIPS, L.W.	Scandium VIII	PHRV	52	97	37
588	KRUGER, P.G., PHILLIPS, L.W.	K IX, Ca X, Sc XI	PHRV	55	352	39
589	KRUGER, P.G., SHOUPP, W.E.	Oxygen III-V, Carbon III	PHRV	44	105	33
590	KRUGER, P.G., SHOUPP, W.E.	Germanium V series	PHRV	46	124	34
591	KRUGER, P.G., WEISSBERG, S.G.	Titanium V series	PHRV	48	659	35
592	KRUGER, P.G., WEISSBERG, S.G.	Chromium VI series	PHRV	52	314	37
593	KRUGER, WEISSBERG, PHILLIPS, L.	Scandium IV series	PHRV	51	1090	37
594	KUPPERIAN, J.E., BOGGESS, MILLIGAN	Rocket spectroscopy	ASJO	128	453	58
595	KUPPERIAN, BYRAM, CHUBB, FRIEDMAN	Night sky radiation	PLSS	1	3	59
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597	LACROUTE, P.	Iodine II	ANAS	2	318	39
598	LACROUTE, P.	Iodine II	ANPH	3	5	35
599	LADENBURG, R., VAN VOORHIS, C.C.	Oxygen 1300-1750 A	PHRV	43	315	33
600	LADENBURG, VAN VOORHIS, BOYCE	Oxygen to 300 A	PHRV	40	1018	32
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604	LANG, R.J.	Copper II, nickel II	PHRV	31	773	28
605	LANG, R.J.	Arsenic III, Bi III	PHRV	32	737	28
606	LANG, R.J.	Nickel II	PHRV	33	547	29
607	LANG, R.J.	Germanium II-IV	PHRV	34	697	29
608	LANG, R.J.	Tin II, Antimony III	PHRV	35	445	30
609	LANG, R.J.	Indium III series	PNAS	13	341	27
610	LANG, R.J.	Germanium II-III	PNAS	14	32	28
611	LANG, R.J.	Zinc II series	PNAS	15	414	29
612	LANG, R.J.	Cerium III	CJRE	A13	1	35
613	LANG, R.J., SAWYER, R.A.	Indium II	ZEPY	71	453	31
614	LANG, R.J., VESTINE, E.H.	Antimony II	PHRV	42	233	32
615	LA PAGLIA, S.R., DUNCAN, A.B.F.	Phosgene	JCPS	34	125	61
616	LA PAGLIA, S.R., DUNCAN, A.B.F.	Fluoro-, chloro-acetones	JCPS	34	350	61
617	LA PAGLIA, S.R., DUNCAN, A.B.F.	Nitrogen trifluoride	JCPS	34	1003	61
618	LA PORTE, O.	Chlorine I	NATU	121	1021	28
619	LA PORTE, O., LANG, R.J.	Zinc III	PHRV	30	378	27
620	LA PORTE, MILLER, G.R., SAWYER, R.A.	Rubidium II	PHRV	38	843	31
621	LA PORTE, MILLER, G.R., SAWYER, R.A.	Cesium II	PHRV	39	458	32
622	LAUN, D.D.	Tungsten II	JRNB	21	207	38
623	LAWSON, M., DUNCAN, A.B.F.	Deuteroacetone	JCPS	12	329	44
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625	LEE, J., WALSH, A.D.	Chlorine, molecular	TFSO	55	1282	59
626	LEE, P.	Oxygen photodissociation	JOSA	45	703	55
627	LEE, P., WEISSLER, G.L.	Constant source	JOSA	42	80	52
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629	LEE, P., WEISSLER, G.L.	Hydrogen continuum	ASJO	115	570	52
630	LEE, P., WEISSLER, G.L.	Neon, 230-800 A	PRSL	A220	71	53
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635	LEY, H., AHREND, B.	Sulfur compounds, H <sub>2</sub> S	ZPCH	B15	311	31
636	LEY, H., AHREND, B.	Amines, acids	ZPCH	B17	177	32
637	LEY, H., SPECKER, H.	Solution spectra	BDCG	72	192	39
638	LEY, H., WINGCHEN, H.	Chromophoric groups	BDCG	67	501	34
639	LIDEN, K.	Fluorine I	AFYS	1	229	49
640	LIEHR, A., MOFFITT, W.	Benzene Rydberg series	JCPS	25	1074	56
641	LITTLE, E.P.	Photoelectric instrument	JOSA	36	168	46
642	LITTLEFIELD, T.A., TURNBULL, D.	Argon wavelengths	PRSL	A218	577	53
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644	LIU, T.K., MOE, G., DUNCAN, A.B.F.	Sulfur hexafluoride	JCPS	19	71	51
645	LIVINGWOOD, J.J.	Platinum I	PHRV	34	185	29
646	LOEFFLER, B.B., EBERLIN, PICKETT	Small ring hydrocarbons	JCPS	28	345	58
647	LONG, L.H., WALSH, A.D.	Carbon monoxide	TFSO	43	342	47
648	LOWREY, A., WATANABE, K.	Ethylene oxide	JCPS	28	208	58
649	LUSCHER, E.	Detectors	SPAC	11	71	57
650	LUSCHER, E.	Review	CHIM	9	298	55
651	LUSCHER, E.	Review on instruments	CINM	13	277	59
652	LUSCHER, E.	Detectors	CINM	13	284	59
653	LUSCHER, E.	Grating spectrograph	RUNM	9	356	59
654	LUTHY, M.A.	Glyoxal	CORE	176	1547	23
655	LYMAN, T.	Hydrogen	ASJO	23	181	06
656	LYMAN, T.	Liquid sterilization	NATU	84	71	10
657	LYMAN, T.	Mercury	ASJO	38	282	13
658	LYMAN, T.	Helium	NATU	110	278	22
659	LYMAN, T.	Grating spectrograph	JOSA	7	495	23
660	LYMAN, T.	Helium	ASJO	60	1	24
661	LYMAN, T.	Air, 1100-1300 A	PHRV	48	149	35
662	LYMAN, T., SAUNDERS, F.A.	Neon	PNAS	12	92	26
663	LYONS, E., MORRIS, G.C.	Anthracene vapor	MOSP	4	480	60
664	MAC ADAM, D.L.	Focus, concave grating	JOSA	23	178	33
665	MAC ADAM, D.L.	Reflection echelon	PHRV	50	185	36
666	MACK, J.E.	Rubidium IX	PHRV	38	193	31
667	MACK, J.E., FROMER, M.	Gold II series	PHRV	48	357	35
668	MACK, LA PORTE, O, LANG, R.J.	Gallium IV, Ge V	PHRV	31	748	28
669	MACK, J.E., STEHN, J.R.	Grating spectrograph	JOSA	23	184	33
670	MACK, J.E., STEHN, J.R., ELDEN, B.	Grating spectrograph	JOSA	22	245	32
671	MADDEN, R.P., CANFIELD, L.R.	Freshly evaporated films	JOSA	51	838	61
672	MAEDER, R.	Sulfur	HPAC	21	411	48
673	MAEDER, R., MIESCHER, E.	Sulfur	NATU	161	393	48
674	MAHAN, B.H.	Krypton source, CO <sub>2</sub>	JCPS	33	959	60
675	MAHNKE, H.E., NOYES, W.A. Jr.	Dichloroethylenes	JCPS	3	536	35
676	MANN, D.E., PLATT, J.R., KLEVENS	Azulene, naphthalene	JCPS	17	481	49
677	MANSELL, A.L., BARRETT, J.	Nitrogen-flushed instr.	HIJO	6	56	61
678	MARMO, F.F.	Nitrogen oxide	JOSA	43	1186	53
679	MARR, G.V.	Iodine vapor absorption	PPSO	A67	196	54
680	MARR, G.V.	Thallium vapor abs.	PRSL	A224	83	54

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681	MARTIN, D.C.	Selenium II	PHRV	48	938	35
682	MARTIN, W.C.	Phosphorus from 782 A	JOSA	49	1071	59
683	MASLEN, V.W., MEHARRY, WILLIAMS	Spark intensities	NATU	173	70	54
684	MASLEN, V.W., WHITE, WILLIAMS	Fluorescence efficiency	BJAP	4	303	53
685	MAYENCE, J., ROMAND, J., VODAR, B.	Nitric oxide vapor	CORE	228	1799	49
686	MAZUMDER, K.C.	Zinc III	IJPY	10	171	36
687	MAZUMDER, K.C.	Cadmium III	IJPY	17	229	43
688	MAZUMDER, K.C.	Zinc II-III	TBIC	10	181	34
689	MC CORMICK, W.W., SAWYER, R.A.	Tin II	PHRV	54	71	38
690	MC DOWELL, M.R.C.	Space measurements	NATU	193	1016	62
691	MC LAY, A.B., CRAWFORD, M.F.	Bismuth IV	PHRV	44	986	33
692	MC LENNAN, J.C.	Vacuum grating spectra	PRSL	A98	114	20
693	MC LENNAN, AINSLIE, D., FULLER, D.	Arc spectra of metals	PRSL	A95	316	19
694	MC LENNAN, J.C., LANG, R.J.	Grating spectrograph	PRSL	A95	258	19
695	MC LENNAN, J.C., LEWIS, A.C.	Si, Te, Mo, Zr spark	PRSL	A98	109	20
696	MC LENNAN, J.C., MC LAY, A.B.	Gold I	PRSL	A134	35	31
697	MC LENNAN, MC LAY, CRAWFORD	Thallium III	PRSL	A125	50	29
698	MC LENNAN, MC LAY, CRAWFORD	Mercury II	PRSL	A134	41	31
699	MC LENNAN, MC LAY, CRAWFORD	Mercury III	TRSC	22	247	28
700	MC LENNAN, J.C., QUINLAN, F.M.	Cu, interferometric	PHMA	14	823	32
701	MC LENNAN, J.C., QUINLAN, F.M.	Cu, interferometric	TRSC	26	19	32
702	MC LENNAN, J.C., TURNBULL, R.	Xenon, three phases	PRSL	A129	266	30
703	MC LENNAN, J.C., TURNBULL, R.	Xenon under pressure	PRSL	A139	683	33
704	MC LENNAN, J.C., YOUNG, J.F.T.	Magnesium, selenium	PHMA	36	450	18
705	MC LENNAN, J.C., YOUNG, J.F.T.	Ca, Sr, Ba ion. pot.	PRSL	A95	273	19
706	MC LENNAN, YOUNG, IRETTON, H.J.C.	Vacuum arc	PRSL	A98	95	20
707	MC LEOD, J.H.	Iodine, 809-2062 A	PHRV	49	804	36
708	MC MURRY, H.L., MULLIKEN, K.S.	Aldehydes and ketones	FNAS	26	312	40
709	MEGGERS, W.F.	Tin I	JRNB	24	153	40
710	MEGGERS, W.F., DE BRUIN, T.L.	Arsenic I	JRNB	3	765	29
711	MEGGERS, DE BRUIN, HUMPHREYS	Krypton I	JRNB	3	129	29
712	MEGGERS, DE BRUIN, HUMPHREYS	Xenon I	JRNB	3	731	29
713	MEGGERS, W.F., HUMPHREYS, C.J.	Antimony I	JRNB	28	463	42
714	MEGGERS, W.F., MOORE, C.E.	Vanadium II	JRNB	25	83	40
715	MEGGERS, W.F., SCRIBNER, B.F.	Hafnium II	JRNB	13	625	34
716	MEGGERS, SHENSTONE, A.G., MOORE, C.E.	Arsenic I	JRNB	45	346	50
717	MEINEL, A.B.	Auroral nitrogen	ASJO	114	431	51
718	MEISSNER, K.W.	Argon I	ZEPY	40	839	27
719	MEISSNER, VAN VELD, WILKINSON	Ge wavelength standards	JOSA	48	1001	58
720	MENZIES, A.C.	Nickel II	PRSL	A122	134	29
721	MEYERSTEIN, D., TREININ, A.	Nitrate ion, solution	TFSO	57	2104	61
722	MIE, I.	Water, HD	ZEPY	91	475	34
723	MIESCHER, E.	Emission bands of NO	HPAC	29	135	56
724	MIESCHER, E.	Emission, NO, NO+	HPAC	29	401	56
725	MIESCHER, E.	Nitric oxide	CJPH	33	355	58
726	MIESCHER, E., BAER	Nitrogen, NO, N-15	NATU	169	581	52
727	MIGEOTTE, D., ROSEN, B.	Nitric oxide	BSRS	19	343	50
728	MILAZZO, G.	N-methyl pyrrole	JCPS	21	163	53
729	MILAZZO, G.	Spectrograph	SPAC	11	474	57

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732	MILAZZO, G., DE ALTI, G.	Thiophene, selenophene	RISS	22	787	59
733	MILAZZO, G., DE ALTI, G.	Thiophene, selenophene	GCIT	89	2479	60
734	MILAZZO, G., MIESCHER, E.	Selenophene, me. pyrrole	RISS	19	80	55
735	MILAZZO, G., MIESCHER, E.	Selenophene, me. pyrrole	JPRA	15	401	54
736	MILGRAM, A., GIVENS, M.P.	Lithium fluoride abs.	PHRV	125	1506	62
737	MILLIKAN, R.A., BOWEN, I.S.	Magnesium II series	PHRV	23	1	24
738	MILLIKAN, R.A., BOWEN, I.S.	Phosphorus III series	PHRV	25	600	25
739	MILLIKAN, BOWEN, SAWYER, R.A.	Carbon, iron, nickel	ASJO	53	150	21
740	MILLIKAN, R.A., SAWYER, R.A.	Spectrograph, zinc	PHRV	12	167	18
741	MITCHELL, E.W.J., PAIGE, E.G.S.	Quartz radiation damage	PHMA	8	1085	56
742	MOE, G., DUNCAN, A.B.F.	Acetylene intensities	JACS	74	3136	52
743	MOE, G., DUNCAN, A.B.F.	Methane, CF <sub>4</sub>	JACS	74	3140	52
744	MCFFITT, W., SCANLAN, J.	Ethylene, calculations	PRSL	A128	464	53
745	MOHLER, H.	Solutions to 1800 A	HCAC	20	282	37
746	MOLNAR, J.P., HITCHCOCK, W.J.	Rhenium I	JOSA	30	523	40
747	MONTAGNE, R., RICARD, R.	Photographic photometry	CORE	202	477	36
748	MOONEY, R.B., REID, H.G.	Cyanogen, halides	NATU	128	271	31
749	MOORE, C.E.	Vanadium I	PHRV	55	710	39
750	MORE, K.R., REEKE, C.A.	Wavelength standards	PHRV	50	1054	36
751	MORI, K.	Nitrogen dioxide	SCLI	3	62	54
752	MORI, K.	Nitrogen dioxide	SCLI	4	130	55
753	MORRISH, A.H., WILLIAMS, DARBY	Be Cu photon counter	RSIN	21	884	50
754	MORTON, D.C., PURCELL, J.D.	Night sky Lyman alpha	NRLR	PB171	3159	61
755	MULLIKEN, R.S.	Intensities	JCPS	7	14	39
756	MULLIKEN, R.S.	Charge-transfer spectra	JCPS	7	20	39
757	MULLIKEN, R.S.	Conjugated dienes	JCPS	7	121	39
758	MULLIKEN, R.S.	Cyclic dienes	JCPS	7	339	39
759	MULLIKEN, R.S.	Ethylene, butadiene dr.	RMPH	14	265	42
760	MULLIKEN, R.S.	Notation, symbols	JCPS	23	1997	55
761	MULLIKEN, R.S.	Acetylene, simple mols.	CJPH	36	10	58
762	MULLIKEN, R.S., TELLER, E.	Methyl iodide	PHRV	61	283	42
763	MUNCK, A.U., SCOTT, J.F.	Oxygen in org. solvents	NATU	177	587	56
764	MURAKAWA, K.	Iodine II	ZEPY	109	162	38
765	MURAKAWA, K., SUMA, S.	Antimony III	SPIP	1	121	47
766	NAGAKURA, S.	Formamide, acrolein	MOPH	3	105	60
767	NAGAKURA, S.	Nitromethane and anion	MOPH	2	152	60
768	NAKAYAMA, KITAMURA, WATANABE	Nitrogen dioxide	JCPS	30	1180	59
769	NAMIOKA, T.	Hydrogen	SCLI	2	73	53
770	NAMIOKA, T.	Grating spectrometer	SCLI	3	15	54
771	NAMIOKA, T.	Concave grating theory	JOSA	49	446	59
772	NAMIOKA, T.	Eagle grating mounting	JOSA	49	460	59
773	NAMIOKA, T.	Monochromator design	JOSA	49	951	59
774	NARAYAN, A.L., RAO, K.R.	Tin II	ZEPY	45	350	27
775	NAUDE, S.M.	Mercury II	ANPH	3	1	29
776	NAUDE, S.M., HUGO, T.J.	Aluminum monofluoride	CJPH	35	64	57
777	NELSON, L.S.	Sapphire lamp	JOSA	46	768	56
778	NELSON, L.S., RAMSAY, D.A.	Sapphire lamp	JCPS	25	372	56

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782	NORDHEIM, G., SPONER, H., TELLER	Benzene vapor, theory	JCPS	8	455	40
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784	NOYES, W.A., Jr.	Photochemistry	RMPH	5	280	33
785	NOYES, DUNCAN, MANNING, W.M.	Acetone vapor	JCPS	2	717	34
786	NOYES, W.A. Jr., KOUPERMAN, A.B.	Solid oxalic acid	JACS	45	1398	23
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789	OGAWA, M., COOK, G.R.	Ozone absorption	JCPS	28	173	58
790	OGAWA, M., COOK, G.R.	Alcohols	JCPS	28	747	58
791	OGAWA, M., TANAKA, Y.	Nitrogen emission	JCPS	30	1354	59
792	OGAWA, M., TANAKA, Y.	Nitrogen emission	JCPS	32	754	60
793	OKABE, H., MC NESEY, J.R.	Ethane pyrolysis, Xe	JCPS	34	668	61
794	OLTHOFF, J., SAWYER, R.A.	Cesium II	PHRV	42	766	32
795	ONAKA, R.	Boron-11 fluoride	JCPS	27	374	57
796	ONAKA, R.	Improved grating mounting	SCLI	7	23	58
797	OSTERBROCK, D.E.	Nebula, J. Lyman alpha	ASJO	135	195	62
798	ONAKA, R., FUJITA, I.	Grating instrument, solids	SCLI	9	31	60
799	PACKER, D.M., LOCK, C.	Thermocouple measurement	JOSA	40	264	50
800	PACKER, D.M., LOCK, C.	Thermocouple measurement	JOSA	41	699	51
801	PALMER, F. Jr.	Photochemical action	JCPS	2	296	34
802	PARKER, W.L., PHILLIPS, L.W.	Chlorine VI series	PHRV	57	140	40
803	PARKINSON, W.W., WILLIAMS, F.E.	Monochromator, luminescence	JOSA	39	705	49
804	PASCHEN, F.	Rydberg series tables	JOSA	16	231	28
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806	PASCHEN, F.	Aluminum III	ANPY	71	142	23
807	PASCHEN, F., KRUGER, P.G.	Carbon I	ANPY	7	1	30
808	PASCHEN, F., KRUGER, P.G.	Beryllium I	ANPY	8	1005	31
809	PATTABHIRAMIAH, P., RAO, A.S.	Arsenic III	IJPY	3	437	28
810	PATTERSON, D.A.	KCl, thallium	PHRV	112	296	58
811	PATTERSON, D.A., VAUGHAN, W.H.	LiF optical properties	NRLR	PB181072		62
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813	PAUL, F.W.	Neon emission	PHRV	56	1067	39
814	PAUL, F.W., POLSTER, H.D.	Neon IV-VI	PHRV	59	424	41
815	PAUL, F.W., RENSE, W.A.	Yttrium V, zirconium VI	PHRV	56	1110	39
816	PEARSE, R.W.B.	Review	RPPH	4	311	37
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818	PEDOS, F.Z., SVENTITSKII, N.S.	Pulse discharge source	OPSP	5	706	58
819	PENNEY, W.G.	Hydrogen Lyman series	PHMA	9	661	30
820	PETRUSKA, J.	Theory, subs. benzenes	JCPS	34	1111	61
821	PETRUSKA, J.	Spectra, subs. benzenes	JCPS	34	1120	61
822	PFUND, A.H.	Hydrogen Lyman series	JOSA	12	467	26
823	PFUND, A.H.	Reflectance of ZnS	JOSA	24	99	34
824	PHIBBS, M.K.	Mercury in solution	JCPS	18	1679	50
825	PHILLIPS, L.W.	Chlorine VII	PHRV	53	248	38
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829	PICKETT, L.W.	Furan	JCPS	8	293	40
830	PICKETT, CORNING, WIEDER, SEMENOW, BUCKLEY	Cyclic amines	JACS	75	1618	53
831	PICKETT, HOEFLICH, LIU, T.	Cyclic compounds	JACS	73	4865	51
832	PICKETT, MUNTZ, M., MC PHERSON	Cyclic compounds	JACS	73	4862	51
833	PICKETT, PADDOCK, SACKTER	Cyclopentadiene	JACS	63	1073	41
834	PICKETT, L.W., SHEFFIELD	Dioxane, dioxadiene	JACS	68	216	46
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836	PIORE, HARVEY, GYORGY, KINGSTON	Spectrometer to 100 A	RSIN	23	8	52
837	PLATT, J.R.	Condensed hydrocarbons	JCPS	17	484	49
838	PLATT, J.R.	Orbital predictions	JCPS	18	1168	50
839	PLATT, J.R.	Spectral relationships	JCPS	19	101	51
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841	PLATT, J.R., KLEVENS, H.B.	Review	RMPH	16	182	44
842	PLATT, J.R., KLEVENS, H.B.	Alkyl benzenes	CHRE	41	301	47
843	PLATT, J.R., KLEVENS, H.B.	Alkyl benzenes	JCPS	16	832	48
844	PLATT, KLEVENS, PRICE, W.C.	Ethylenes, acetylenes	JCPS	17	466	49
845	PLATT, KLEVENS, SCHAEFFER, G.	Borazole	JCPS	15	598	47
846	PLATT, RUSOFF, I., KLEVENS, H.B.	Organic solutions	JCPS	11	535	43
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848	POHL, R.W.	Alkali halides	PHZT	39	36	38
849	PONDROM, W.L., ROBERTSON, W.W.	Regulator, hydrogen lamps	RSIN	19	561	48
850	POPPER, P.	Synthetic mica	NATU	168	1119	54
851	POTTER, R.J.	Plastic scintillator	RSIN	32	286	61
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853	POTTS, W.J. Jr.	Low temperature methods	JCPS	21	191	53
854	POTTS, W.J. Jr.	Benzene, derivatives	JCPS	23	73	55
855	POWELL, W.M. Jr.	Quartz, fused crystal	PHRV	46	43	34
856	POWELL, W.M. Jr.	Fluorite transmission	PHRV	45	154	34
857	PREISS, J.W., SETLOW, R.	Proteins, peptides	JCPS	25	138	56
858	PRESTON, W.M.	Solar H Lyman alpha	PHRV	57	887	40
859	PRICE, W.C.	Formaldehyde, HCN	PHRV	46	529	34
860	PRICE, W.C.	Acetylene, ethylene	PHRV	45	843	34
861	PRICE, W.C.	Formaldehyde, ion. pot.	JCPS	3	256	35
862	PRICE, W.C.	Ethyl halides, ion. pot.	JCPS	3	365	35
863	PRICE, W.C.	Acetylene, ethylene	PHRV	47	444	35
864	PRICE, W.C.	Water, hydrogen sulfide	JCPS	4	147	36
865	PRICE, W.C.	Alkyl halides, ion. pot.	JCPS	4	539	36
866	PRICE, W.C.	Alkyl halides, ion. pot.	JCPS	4	547	36
867	PRICE, W.C.	Halogen acids	PRSL	A167	216	38
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874	PRICE, SHERMAN, W., WILKINSON, G.	Liquids and crystals	PRSL	A255	5	60
875	PRICE, W.C., SIMPSON, D.M.	Sulfur dioxide, CS <sub>2</sub>	PRSL	A165	272	38
876	PRICE, W.C., SIMPSON, D.M.	Carbon dioxide, CO <sub>2</sub>	PRSL	A169	501	39

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879	PRICE, TEEGAN, J.P., WALSH, A.D.	S, Se, Te hydrides	PRSL	A201	600	50
880	PRICE, W.C., TUTTE, W.T.	Substituted ethylenes	PRSL	A174	207	40
881	PRICE, W.C., WALSH, A.D.	Conjugated dienes	PRSL	A174	220	40
882	PRICE, W.C., WALSH, A.D.	Cyclic dienes	PRSL	A179	201	41
883	PRICE, W.C., WALSH, A.D.	Triple-bond molecules	TFSO	41	381	45
884	PRICE, W.C., WALSH, A.D.	Hexatriene	PRSL	A185	182	46
885	PRICE, W.C., WALSH, A.D.	Benzene derivatives	PRSL	A191	22	47
886	PRICE, W.C., WOOD, R.W.	Benzene, deuterated	JCPB	3	439	35
887	PROTAS, I.R.	Photographic plates	OPSP	4	803	58
888	FRUGGER, H., DORR, F.	Exocyclic ketones	ZEAP	64	425	60
889	PURCELL, J.D.	Reflectance	JOSA	41	290	51
890	PURCELL, J.D.	Reflectance	JOSA	43	1166	53
891	PURCELL, BOGGESS, A., TOUSEY	Solar rocket spectra	IGYR	1	198	58
892	PURCELL, PACKER, D.M., TOUSEY	Solar Lyman alpha	NATU	184	8	59
893	PURCELL, J.D., TOUSEY, R.	Solar Lyman alpha	JGRE	65	370	60
894	PURCELL, J.D., TOUSEY, R.	Solar Lyman alpha	MSRS	5-4	283	61
895	RAKATOARIJIMY, WEINIGER, GRENAT	Schumann-Runge oxygen	CORE	246	2883	58
896	RAKATOARIJIMY, WEINIGER, WILKINSON	Liquids and crystals	PRSL	A255	5	60
897	RAM, M.	Potassium III-V	LJPY	8	151	33
898	RAM, M.	Calcium IV-V	LJPY	8	163	33
899	RAMANADHAM, R., RAO, K.R.	Bromine II	LJPY	18	317	44
900	RAMSEY, R.C.	Stellar emissions	APOP	1	465	62
901	RAO, A.S.	Arsenic II	LJPY	7	561	32
902	RAO, A.S.	Arsenic II	PFSO	44	343	32
903	RAO, A.S.	Arsenic I	PFSO	44	594	32
904	RAO, A.S., KRISHNAMURTY, S.G.	Bromine IV	PFSO	46	531	34
905	RAO, A.S., NARAYAN, A.L.	Arsenic III	ZEFPY	57	865	29
906	RAO, A.S., NARAYAN, A.L.	Lead III	ZEFPY	59	687	30
907	RAO, A.S., RAO, K.R.	Bromine V-VII	PFSO	46	163	34
908	RAO, B.V.R.	Silver III	PIAS	A1	28	34
909	RAO, K.R.	Indium II, gallium II	PFSO	39	161	27
910	RAO, K.R.	Arsenic III	PFSO	43	68	31
911	RAO, K.R.	Germanium I, to 1630 A	PRSL	A124	465	29
912	RAO, K.R.	Arsenic	PRSL	A125	238	29
913	RAO, K.R.	Tellurium	PRSL	A133	220	31
914	RAO, K.R.	Arsenic	PRSL	A134	604	32
915	RAO, K.R., BADAMI, J.S.	Selenium	PRSL	A131	154	31
916	RAO, K.R., KRISHNAMURTY, S.G.	Bromine III	PRSL	A161	38	37
917	RAO, K.R., NARAYAN, A.L.	Germanium II-IV	PRSL	A119	607	28
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1173	VEGARD, L.	Nitrogen	ZEPY	75	30	32
1174	VENKATESACHAR, B., SUBBARAYA, T.	Mercury II	ZEPY	73	412	31
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1177	VODAR, B., ROBIN, S.	Gases as solvents	JCPS	16	996	43
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1181	WAGNER, P., DUNCAN, A.B.F.	Difluoromethane	JACS	77	2609	55
1182	WAHR, J.C., MC CORMICK, SAWYER	Vacuum spark emission	JOSA	43	151	53
1183	WAINFAN, N., WALKER, WEISSLER	Photoionization of O,N	JAPI	24	1318	53
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1186	WALKER, W.C., RUSTGI, WEISSLER	Thin metallic films	JOSA	49	471	59
1187	WALKER, W.C., SAMSON, RUSTGI	Aluminum reflectance	JOSA	48	71	58
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1202	WATANABE, K.	Phosphor, Mn-Ca sulfate	PHRV	83	785	51
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1205	WATANABE, K.	Ion. pot., 89 compounds	JCPS	26	542	57
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1209	WATANABE, K., MARMO, F.F.	Oxygen, nitrogen to 850 A	JCPS	25	965	56
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1211	WATANABE, K., MOTTI, J.R.	Ammonia, amines, ion. pot.	JCPS	26	1773	57
1212	WATANABE, K., NAKAYAMA, T.	Photoionization, furan gas	JCPS	29	48	58
1213	WATANABE, K., NAMIOKA, T.	Propyne, ion. pot.	JCPS	24	915	56
1214	WATANABE, PURCELL, TOUSEY	Rocket spectroscopy, solar	NRLR	No	3733	
1215	WATANABE, K., ZELIKOFF, M.	Water vapor, abs. coeff.	JOSA	43	329	53
1216	WATANABE, K., ZELIKOFF, M.	Water vapor, abs. coeff.	JOSA	43	753	53
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1219	WEISSLER, G.L., LEE, P.	Oxygen, abs. coeff.	JOSA	42	200	52
1220	WEISSLER, G.L., LEE, P., MOHR, E.	Nitrogen, abs. coeff.	JOSA	42	84	52
1221	WEISSLER, SAMSON, OGAWA, COOK	Photoion., mass spec.	JOSA	49	338	59
1222	WERNER, S.	Lithium II	NATU	116	574	25
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1224	WERNER, S.	Hydrogen	PRSL	A113	107	26
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1227	WHITE, H.E.	Vanadium III, Cr IV, Mn V	PHRV	33	672	29
1228	WHITE, H.E.	Chromium III	PHRV	33	914	29
1229	WHITFORD, A.E.	Potassium VI-IX, Ca VII	PHRV	46	793	34
1230	WIELAND, K., WEHRLI, MIESCHER	New bands of sulfur	HPAC	6	460	33
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1236	WILKINSON, P.G.	Ethylene, deuterated	CJPH	34	643	56
1237	WILKINSON, P.G.	Benzene, ion. potential	JCPS	24	917	56
1238	WILKINSON, P.G.	Nitrogen, high resolution	ASJO	126	1	57
1239	WILKINSON, P.G.	High resolution instr.	JMOS	1	288	57
1240	WILKINSON, P.G.	Wavelength standards	JOSA	47	182	57
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1244	WILKINSON, P.G.	Nitrogen, refraction	JOSA	50	1002	60
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1261	WOOD, R.W.	Alkali metals, optical	PHRV	44	353	33
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1263	WORLEY, R.E.	Nitrogen, high dispersion	PHRV	4	207	43
1264	WORLEY, R.E.	Nitrogen, 3rd Rydberg ser.	PHRV	89	863	53
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1269	ZELIKOFF, M., ASCHENBRAND, L.M.	Nitrous oxide, photochem.	JCPS	22	1685	54
1270	ZELIKOFF, M., ASCHENBRAND, L.M.	Acetylene, photochemistry	JCPS	24	1034	56
1271	ZELIKOFF, M., ASCHENBRAND, L.M.	Nitric oxide, photochem.	JCPS	25	674	56
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1274	ZELIKOFF, WATANABE, INN, E.C.Y.	Nitrous oxide	JCPS	21	1043	53
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1277	ZINNGREBE, H.	Thallium chloride	ZEPY	154	495	59
1278	ZOBEL, C.R., DUNCAN, A.B.F.	Methane, halogenated	JACS	77	2611	55
1279	ZUMSTEIN, R.V.	Absorption of tin vapor	PHRV	27	150	26
1280	ZUMSTEIN, R.V.	Al, Si, Bi wavelength std.	PHRV	38	2214	31

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V. SUPPLEMENTAL LIST

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1283	ASTOIN, JOHANNIN-GILLES, GRANIER-MAYENCE, ROMAND	Water, nitric oxide	ZELIKOFF		130	57
1284	ASTOIN, ROMAND, VODAR	Sliding spark source	ZELIKOFF		128	57
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1286	AXELROD, N.N.	Spectrophotometric accessory	JOSA	51	898	61
1287	BARTH, C.A., KAPLAN, J.	Atmosphere, photochemistry	ZELIKOFF		3	57
1288	BYRAM, CHUBB, FRIEDMAN	Oxygen dissociation	ZELIKOFF		211	57
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1297	MOHLER, H., LOHR, H.	Cyclohexenes	HCAC	20	1183	37
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1306	WALKER, W.C., WEISSLER	Photoionization, NO, N <sub>2</sub> O	JCPS	23	1962	55
1307	WATANABE, K., MOTTI, J.R.	High resolution photometry	ZELIKOFF		151	57
1308	WILKINSON, MULLIKEN	Nitrogen, L-B-H bands	ASJO	126	10	57
1309	ZELIKOFF, ASCHENBRAND	Nitrous oxide photochemistry	ZELIKOFF		99	57
1310	KLEVENS, H.B., PLATT, J.R.	Survey (See Book Section)	NR	019-101		54
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1312	GAUSTAD, J.E., SPITZER, L.	Computed stellar spectra	ASJO	134	771	62
1313	KATO, NAKASHIMA, NAKAMURA, UCHIDA	LiF reflection	JUPS	15	2105	60
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